Application No.: 10/016,686

Page 2

Amendments to the Claims:

Please kindly amend the claims as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-45 (canceled)

- 46. (Currently amended) A method of preventing and/or treating a disease associated with a disease associated molecule (DAM), <u>said method</u> comprising administering an ScFv antibody (ScFv Ab) capable of recognizing [a or] the DAM.
- 47. (Original) The method of claim 46 wherein the DAM is a tumor associated antigen (TAA).
- 48. (Original) The method according to claim 46 or claim 47 wherein the ScFv Ab has the sequence presented as SEQ ID No 1 or SEQ ID No 2.
- 49. (Original) The method according to claim 46 or claim 47 wherein the ScFv Ab has the sequence presented as SEQ ID No 3.
- 50. (Original) The method according to claim 46 or claim 47 wherein the ScFv Ab has the sequence presented as SEQ ID No 4.
- 51. (Currently amended) A nucleotide sequence encoding the ScFv Ab according of claim 46 or claim 47.
- 52. (Original) An isolated nucleic acid molecule encoding an ScFv antibody (ScFv Ab) having a sequence set forth in SEQ ID Nos. 1, 2, 3 or 4 or a variant, homologue, fragment or derivative thereof.

A. KINGSMAN et al.

Application No.: 10/016,686

- 53. (Original) The isolated nucleic acid molecule of claim 52 having a sequence set forth in SEQ ID Nos. 1, 2, 3, or 4.
- 54. (Original) An isolated nucleic acid molecule having the nucleotide sequence presented as SEQ ID No 5 or SEQ ID No 6 or a variant, homologue, fragment or derivative thereof.
- An isolated nucleic acid molecule having the nucleotide sequence 55. (Original) presented as SEQ ID No 7 or a variant, homologue, fragment or derivative thereof.
- 56. (Original) An isolated nucleic acid molecule having the nucleotide sequence presented as SEQ ID No 8 or a variant, homologue, fragment or derivative thereof.
- An isolated nucleic acid molecule having the nucleotide sequence 57. (Original) presented as SEQ ID No 5 or SEQ ID No 6.
- 58. (Original) An isolated nucleic acid molecule having the nucleotide sequence presented as SEQ ID No 7.
- An isolated nucleic acid molecule having the nucleotide sequence 59. (Original) presented as SEQ ID No 8.
- A nucleotide sequence capable of hybridising to the nucleotide 60. (Original) sequence according to any one of claims 54-59 or a sequence that is complementary to the hybridisable nucleotide sequence.
- A nucleotide sequence according to any one of claims 54-59 61. (Original) wherein the nucleotide sequence is operably linked to a promoter.
- 62. (Original) A nucleotide sequence according to claim 60 wherein the nucleotide sequence is operably linked to a promoter.

A. KINGSMAN et al.

Application No.: 10/016,686 Page 4

- 63. (Currently amended) A construct, vector, plasmid, or host cell comprising the nucleotide sequence according to any one of claims 54-59.
- 64. (Currently amended) A construct, vector, plasmid, or host cell comprising the nucleotide sequence according to claim 60.
- 65. (Currently amended) A construct, vector, plasmid, or host cell comprising the nucleotide sequence according to claim 61.
- 66. (Original) A process for preparing an ScFv antibody (ScFv Ab) capable of recognizing a disease associated molecule comprising expressing a nucleic acid molecule of any one of claims 54-59 and optionally isolating and/or purifying the ScFv Ab.
- 67. (Original) A process for preparing an ScFv antibody (ScFv Ab) wherein DAM is TAA.
- 68. (Currently amended) A process for preparing an ScFv antibody (ScFv An) (ScFv Ab) wherein ScFv Ab has a sequence as presented in SEQ ID Nos 1, 2, 3, or 4.
 - 69. (Original) A ScFv Ab produced by the process according to claim 66.
- 70. (Currently amended) An *in vitro* method for obtaining a ScFv Ab according to claim 69 comprising:
- (i) preparing a phage library wherein each phage comprises a nucleic acid construct encoding a protein comprising a potential binding domain;
- (ii) causing the expression of said potential proteins and the display of the potential binding domains on the outer surface of the phage;
- [(v)](iii) contacting the phage library with a DAM target under conditions such that the potential binding domains and the DAM target interact;
- [(vi)](iv) separating the phage displaying a domain that binds the DAM target from phage that do not bind;

A. KINGSMAN et al.

Application No.: 10/016,686

- (v) recovering at least one phage displaying on its outer surface a protein which binds the DAM target;
- (vi) amplifying the binding protein *in vitro* to create a second enriched library of binding structures;
 - (vii) repeating steps (iii) to (vi) at least twice;
- (viii) expressing the nucleic acid encoding the binding protein under in vitro conditions; and
- (ix) determining whether the binding protein interacts with the DAM by detecting the presence or absence of a signal.
- 71. (Original) An *in vitro* method according to claim 70 wherein the *in vitro* method is to screen for a ScFv Ab useful in the treatment of a disease.
 - 72. (Original) A process comprising the steps of:
 - (a) performing the *in vitro* method according to claim 70 or claim 71;
- (b) identifying one or more ScFv Abs capable of recognising a DAM by means of a detectable signal; and
 - (c) preparing a quantity of those one or more ScFv Abs.
 - 73. (Currently amended) A process comprising the steps of:
 - (a) performing the method according to claim 70 or claim 71;
- (b) identifying one or more ScFv Abs capable of recognising a DAM by means of a detectable signal; and
- (c) preparing a pharmaceutical composition comprising those one or more identified ScFv Abs.
 - 74. (Original) A process comprising the steps of:
 - (a) performing the method according to claim 70 or claim 71;
 - (b) identifying one or more ScFv Abs capable of recognising a DAM;

A. KINGSMAN et al.

Application No.: 10/016,686

- (c) modifying those one or more identified ScFv Abs capable of recognising a DAM; and
- (d) preparing a pharmaceutical composition comprising those one or more modified ScFv Abs.
- 75. (Currently amended) A ScFv antibody (ScFv Ab) eabaple capable of recognizing a TAA identified by the method of claim 70 or claim 71.
- 76. (Original) A ScFv Ab according to claim 75 wherein the ScFv Ab is capable of recognising a 5T4 antigen.
- 77. (Original) An antibody having the binding specificity of an scFv according to claim 75 conjugated to any one or more of an isotope, an enzyme, a carrier protein, a cytotoxic drug, a fluorescent molecule and a radioactive nucleotide.
- 78. (Currently amended) A method of affecting a disease *in vivo* with an ScFv Ab; wherein the ScFv Ab recognises a DAM antigen in an *in vitro* method; and wherein the *in vitro* method is the method defined in claim 70 or claim 71.
- 79. (Original) A pharmaceutical composition comprising the ScFv Ab of claim 69.
- 80. (Original) The pharmaceutical composition of claim 79 further comprising another therapeutic agent.
- 81. (Original) The pharmaceutical composition of claim 80 wherein the other therapeutically useful agent is a pro-drug activating enzyme.
- 82. (Original) The pharmaceutical composition of claim 81 wherein the other therapeutically useful agent is a toxin.
- 83. (Original) A pharmaceutical composition according to claim 79 or claim 80 or claim 81 or claim 82 wherein the ScFv Ab is capable of recognising a 5T4 antigen.

A. KINGSMAN et al.

Application No.: 10/016,686

Page 7

- 84. (Original) The method of claim 46 further comprising administering a prodrug activating enzyme or toxin.
- 85. (Original) A method for *in vivo* imaging and/or adjuvant treatment of a disease associated with a disease associated molecule (DAM) comprising administering an ScFv antibody (ScFv Ab).
 - 86. (Original) The method according to claim 85 wherein the disease is cancer.
- 87. (Original) A method for screening for agents that modulate a disease associated molecule (DAM) by contacting a DAM with an ScFv Ab as claimed in 69.
- 88. (Currently amended) A process for diagnosing a disease condition relating to the expression and/or activity of adisease a disease associated molecule (DAM) in an individual comprising:
- (i) providing a nucleotide sequence encoding a ScFv Ab as defined in claims 52-56 or an expression product thereof; and
- (ii) analysing for the binding of the ScFv Ab to a DAM in a sample derived from the individual;

wherein the binding is indicative of the presence of the DAM in the individual.

- 89. (Original) A method for inducing a therapeutic response in a mammal with a disease condition associated with a disease associated molecule (DAM) *in vivo* which comprises inoculating the mammal with a ScFv Ab as claimed in claim 69.
- 90. (Original) A method according to claim 89 wherein the disease condition is a cancer.
 - 91. (Original) A pharmaceutical comprising an ScFv.
- 92. (Original) An isolated canine 5T4 polypeptide having the amino acid sequence shown in SEQ ID No 14.

<u>PATENT</u>

A. KINGSMAN et al.

Application No.: 10/016,686

- 93. (Original) An isolated nucleotide sequence capable of encoding a canine 5T4 polypeptide according to claim 92.
- 94. (Original) An isolated nucleotide sequence according to claim 43, having the sequence shown as SEQ ID NO I5.
- 95. (Original) An isolated antibody capable of binding specifically to a canine 5T4 polypeptide according to claim 92.